

537,241

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number  
**WO 2004/052554 A1**

(51) International Patent Classification<sup>7</sup>: **B05C 1/04, B05D 1/28**

(21) International Application Number:  
**PCT/US2003/038695**

(22) International Filing Date: 5 December 2003 (05.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/431,270 6 December 2002 (06.12.2002) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US 60/431,270 (CIP)  
Filed on 6 December 2002 (06.12.2002)

(71) Applicant (for all designated States except US): **STORA ENSO NORTH AMERICA CORP. [US/US]; 510 High Street, Wisconsin Rapids, WI 54495 (US).**

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DAMRAU, Wayne, A. [US/US]; 6540 Wazeecha Ridge court, Wisconsin Rapids, WI 54494 (US).**

(74) Agent: **PIONTEK, Michael; Pyle & Piontek, 221 N. LaSalle Street, Suite 850, Chicago, IL 60601 (US).**

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

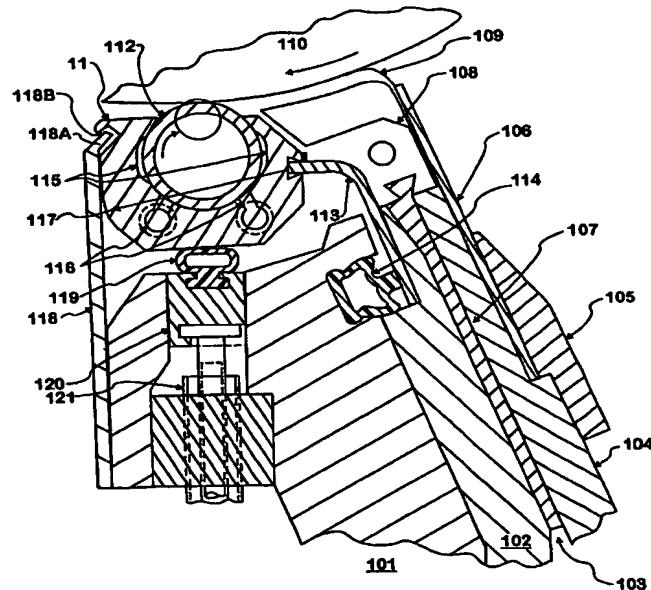
(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: DOCTOR APPARATUS



WO 2004/052554 A1

(57) Abstract: A doctor method and apparatus is disclosed and includes a doctor roll (12) supported in a coater (1) suitable for applying coating to a paper web surface or a roll surface (4) for subsequent transfer to the paper web. The doctor includes a doctor roll (12), a support (11) for the doctor roll (12), a front support (3) for holding the roll support (11) and a rear support or retainer (18) cooperates with and helps stabilize the support (11) and doctor roll (12). The present invention minimizes the variation moving of the doctor roll (12) has on the coating on the moving surface (4), be it web or roll, and thus can improve coating quality.



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*